

**To:** Zhen, Davis[Zhen.Davis@epa.gov]  
**Cc:** Grandinetti, Cami[Grandinetti.Cami@epa.gov]  
**From:** Holsman, Marianne  
**Sent:** Wed 2/17/2016 6:29:32 PM  
**Subject:** FW: [Checking In with Cami] PH narrated presentations (MNA, Dredging, Capping and Monitoring) confirmation by Tuesday

Hi Davis:

I am totally embroiled in this Nonresponsive Would you be able to give these narrated “videos” a careful review from a management and overall message consistency standpoint?

I think we need that type of review before these are posted.

Cami, not sure if you’ll have time/bandwidth to review either.

Thanks!!

Marianne

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**From:** Conley, Alanna  
**Sent:** Wednesday, February 17, 2016 9:53 AM  
**To:** Grandinetti, Cami <Grandinetti.Cami@epa.gov>; Holsman, Marianne <Holsman.Marianne@epa.gov>; Knudsen, Laura <Knudsen.Laura@epa.gov>; Koch, Kristine

<Koch.Kristine@epa.gov>

**Subject:** FW: [Checking In with Cami] PH narrated presentations (MNA, Dredging, Capping and Monitoring) confirmation by Tuesday

**Importance:** High

Hi Cami,

Per the message below, I'll ask the contractor to move forward and finalize the narrated presentations with Kristine, Annie and Elizabeth's edits. We'd like to have these available for the upcoming Open Houses during the community information sessions. Several community members have requested more information about the technologies and these are short animations that may help. Laura will also facilitate having the presentations posted on the EPA Youtube channel for greater community access.

Thanks, Alanna

**From:** Conley, Alanna

**Sent:** Tuesday, February 09, 2016 2:13 PM

**To:** Grandinetti, Cami <[Grandinetti.Cami@epa.gov](mailto:Grandinetti.Cami@epa.gov)>

**Cc:** Holsman, Marianne <[Holsman.Marianne@epa.gov](mailto:Holsman.Marianne@epa.gov)>; Knudsen, Laura <[Knudsen.Laura@epa.gov](mailto:Knudsen.Laura@epa.gov)>

**Subject:** PH narrated presentations (MNA, Dredging, Capping and Monitoring) confirmation by Tuesday

**Importance:** High

Hi Cami,

Community members requested copies of the Technology Talk presentations the Team gave during the fall. Four narrated powerpoint presentations (5 minutes long) have been created to help people better understand MNA, Dredging, Capping and Monitoring. View presentations

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Kristine, Elizabeth and Annie have reviewed and provided edits. Laura compiled their comments below and will work with Charles to get them posted on the EPA Youtube channel. A link will be placed on the PH website.

By Tuesday, please provide any recommendations by Tuesday so we can have this ready to go next week.

Thanks!

**From:** Knudsen, Laura  
**Sent:** Tuesday, February 09, 2016 10:07 AM  
**To:** Conley, Alanna <[conley.alanna@epa.gov](mailto:conley.alanna@epa.gov)>  
**Subject:** Most Recent Versions of PH Videos & Draft Message to Management \*Thank You!\*

**Importance:** High

Kristine and Annie have provided some great comments on the MNA, Dredging, Capping and Monitoring Videos. We have outlined their comments below this note and Laura has updated the text in the videos to reflect their edits. The most up to date versions of the videos are at the following link:

**LINK →** [Personal Privacy / Ex. 6](#)

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## Comments from Kristine and Annie

### **1. Monitored Natural Recovery (MNR) Video**

#### **o Slide #1: Title Slide**

- Annie's edits: The Portland Harbor Superfund Site in Portland, Oregon, is the result of more than a century of industrial use along the Willamette River. The Superfund

study area is located between the Broadway Bridge and Sauvie Island. Sediments (soil on the bottom of the river) and parts of the shoreline are contaminated with many hazardous substances, including heavy metals, polychlorinated biphenyls (PCBs) and pesticides. These compounds have been found to be harmful to people and the environment. Because of the contamination, some types of fish found in Portland Harbor, such as bass, carp and catfish, currently pose a health risk to those who eat them. EPA has determined that risks posed by the Portland Harbor site are high enough to take action under the Superfund Law. In 2000, the U.S. EPA listed Portland Harbor as a Superfund site and began the process that would ultimately lead to a cleanup plan to reduce health and environmental risks.

•□□□□□□□ Decision: Changes Accepted

#### o Slide #3: **Monitoring**

▪ Annie and Kristine's edits: Monitoring is an important part of MNR to ensure that contaminant levels are decreasing with time and risk reduction goals will be met. A monitoring program may include periodically sampling fish tissue, sediment, surface water, and sediment pore water at various depths below the sediment surface. Pore water is the water between the grains of sediment and rocks at the bottom of the river.

•□□□□□□□ Decision: Changes Accepted

#### o Slide #4: **Advantages and Limitations**

▪ Annie's edits: MNR's advantages include its relatively low cost and the fact that it does not disturb the environment or significantly impact nearby communities, so normal activities in and around the river can continue. A major limitation of MNR is that contaminants are left in place and there is a risk that changing conditions could cause potential future exposure. MNR is also a slow process; it can take many years to reach cleanup goals. MNR relies on institutional controls such as fish advisories and restrictions on land and water use and long-term monitoring to make sure risk is controlled.

MNR may take 10, 20, 30 or more years to restore the environment. During this time, fish, wildlife and people may still be exposed to hazardous substances through the food chain. At the same time, water may be safe for recreation and impacts could be reduced by not eating fish from the river. **This sentence doesn't make sense...maybe it**

**should say “However, during this time, water may...” I would reiterate here that MNR needs to be combined with other cleanup technologies, not just used by itself.**

•□□□□□□□ Decision: Changes accepted and we have changed the second paragraph as follows:

- o MNR may take 10, 20, 30 or more years to restore the environment by itself and should be combined with other cleanup technologies. During this time, fish, wildlife and people may still be exposed to hazardous substances through the food chain. However, the water may be safe for recreation and impacts could be reduced by not eating fish from the river.

## **2. Dredging Video**

*Note: Kristine had no comments on this video*

- o Slide #1: Title Slide

- Annie’s edits: The Portland Harbor Superfund Site in Portland, Oregon, is the result of more than a century of industrial use along the Willamette River. The Superfund study area is located between the Broadway Bridge and Sauvie Island. Sediments (soil on the bottom of the river) and parts of the shoreline are contaminated with many hazardous substances, including heavy metals, polychlorinated biphenyls (PCBs) and pesticides. These compounds have been found to be harmful to people and the environment. Because of the contamination, some types of fish found in Portland Harbor, such as bass, carp and catfish, currently pose a health risk to those who eat them. EPA has determined that risks posed by the Portland Harbor site are high enough to take action under the Superfund Law. In 2000, ~~the U.S.~~ EPA listed Portland Harbor as a Superfund site and began the process that would ultimately lead to a cleanup plan to reduce health and environmental risks.

•□□□□□□□ Decision: Changes Accepted

- o Slide #4: Advantages and Limitations

- Annie’s Edits: Dredging has several important advantages. It permanently removes contaminants from the river and the cleanup is relatively fast compared to other technologies such as monitored natural recovery. Dredging equipment is commercially available and the cost of the actual dredging is low to moderate.

Dredging’s most significant limitations are the potential re-suspension of contaminated

sediment and difficulty in reaching very low cleanup goals. Sometimes a cap is still needed for residual contamination. For sites where the contamination has not had\_ without significant ecological impacts, dredging can be more harmful to aquatic organisms than leaving contaminated sediment in place. Handling and disposal of sediment also puts workers at risk of exposure to the contaminants in the material. At some sites, dewatering, treatment and disposal costs make dredging impractical.

Once material is dredged, it is placed on barges or trucked off site. If it is toxic, it must be sent to a permitted hazardous waste facility.

●□□□□□□□□ Decision: Changes Accepted

### 3. Monitoring Video

#### o Slide #1: Title Slide

▪ Annie's edits: The Portland Harbor Superfund Site in Portland, Oregon, is the result of more than a century of industrial use along the Willamette River. The Superfund study area is located between the Broadway Bridge and Sauvie Island. Sediments (soil on the bottom of the river) and parts of the shoreline are contaminated with many hazardous substances, including heavy metals, polychlorinated biphenyls (PCBs) and pesticides. These compounds have been found to be harmful to people and the environment. Because of the contamination, some types of fish found in Portland Harbor, such as bass, carp and catfish, currently pose a health risk to those who eat them. EPA has determined that risks posed by the Portland Harbor site are high enough to take action under the Superfund Law. In 2000, the U.S. EPA listed Portland Harbor as a Superfund site and began the process that would ultimately lead to a cleanup plan to reduce health and environmental risks.

●□□□□□□□□ Decision: Changes Accepted

#### o Slide #3: Monitoring Plans

▪ Kristine and Annie's Edits: Monitoring at Superfund sites is planned before any cleanup work starts. A detailed monitoring The plan is developed after the Record of Decision or ROD that describes what monitoring will be done and when it will take place. The ROD is EPA's final decision for cleaning up the site and the ROD is issued after EPA has made changes to the proposed plan based on comments from the public. There are established EPA protocols and standard procedures for most monitoring activities. Planning includes choosing monitoring procedures, the types of samples to

collect, analysis methods, how long to monitor, which species to monitor and triggers to watch that will identify trends such as decreasing or increasing contamination. If monitoring shows that contaminant levels are increasing during cleanup, EPA may make changes to the cleanup approach. If monitoring shows contaminant levels are not decreasing as expected after cleanup, EPA may require additional cleanup activities.

●□□□□□□□□ Decision: Changes Accepted

#### o Slide #4: **Technology-Specific Monitoring Activities**

▪ Annie's Edits: Each cleanup technology requires different monitoring procedures and techniques. These are selected when a monitoring plan is developed. For monitored natural recovery, sediment accumulation rates and contaminant levels in surface sediment and biota such as fish or crayfish could be monitored. For dredging, water quality, air quality and proper dredging depths could be monitored during the process. After a cap is placed over contaminated sediment, monitoring could include checking the thickness of the cap, contaminant levels in sediment and contaminant levels in pore water between sediment particles to ensure that contamination is not leaking through the cap.

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#### o Slide #5: **Monitoring the Disposal Site**

▪ Kristine and Annie's Edits: When a Superfund site is cleaned up and the contaminated material is moved to another location, monitoring of the disposal site continues until site cleanup goals have been achieved and there are no restrictions at the site on the potential use of land or other natural resources ~~there is no longer a potential for exposure~~. Depending on the contaminant concentrations in the dredged material, material removed from a river bottom could be moved into a landfill, a confined disposal facility nearshore or offshore, or a confined aquatic disposal cell deep in the ocean. However, hazardous material can only be placed in a specially-designed landfill.

●□□□□□□□□ Decision: Changes Accepted

## 4. **Capping Video**

*Note: Kristine had no comments on this video*

#### o Slide #1: Title Slide

▪ Annie's edits: The Portland Harbor Superfund Site in Portland, Oregon, is the result

of more than a century of industrial use along the Willamette River. The Superfund study area is located between the Broadway Bridge and Sauvie Island. Sediments (soil on the bottom of the river) and parts of the shoreline are contaminated with many hazardous substances, including heavy metals, polychlorinated biphenyls (PCBs) and pesticides. These compounds have been found to be harmful to people and the environment. Because of the contamination, some types of fish found in Portland Harbor, such as bass, carp and catfish, currently pose a health risk to those who eat them. EPA has determined that risks posed by the Portland Harbor site are high enough to take action under the Superfund Law. In 2000, the U.S. EPA listed Portland Harbor as a Superfund site and began the process that would ultimately lead to a cleanup plan to reduce health and environmental risks.

●■■■■■■■■ Decision: Changes Accepted

o Slide #4: **Capping Selection Considerations**

■ Annie's Edits: There are several issues to consider when selecting capping as a cleanup approach for contaminated sediment.

1. Capping requires means transporting capping materials to a site. The availability of capping materials nearby can make it a more efficient and cost-effective option.
2. Land and waterway use may need to be restricted to protect a cap, so considering how a cap will affect the planned future use of the capped area is important. Infrastructure, water depth and human activities such as navigation and recreation are all factors to consider.
3. A technical evaluation of the contaminants, sediment and river conditions is needed to determine whether conditions are favorable for capping and to identify the most suitable cap for the area.

●■■■■■■■■ Decision: Changes Accepted

o Slide #6: **Advantages and Limitations**

■ Annie's Edits: Capping has advantages and limitations. Its advantages include the relatively quick reduction of exposure. Capping typically requires less equipment and infrastructure than dredging because dewatering and transport of dredged contaminated sediments is avoided. Capping may also be less disruptive to communities and less expensive than dredging. Capping may also support new habitat for organisms living on the river bottom and encourage re-establishment of native species.



Limitations of capping include the fact that the contaminated sediment remains in place. If the cap is ever significantly damaged, contaminants could be exposed. The cap must be maintained over time, which may includes periodic inspections and may require\_ repairs. Maintenance may require long-term institutional controls, such as restrictions on boat speeds or prohibition of boat anchoring. Use of capping materials such as rock armoring to prevent erosion and burrowing may alter the habitat of native organisms.

●□□□□□□□□ Decision: Changes Accepted

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**Laura Knudsen**

U.S. Environmental Protection Agency | Superfund | Environmental Protection Specialist

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Laura's Adobe Connect Room

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"Nothing great was ever achieved without enthusiasm" (Ralph Waldo Emerson)

Please Note: I am currently on detail to the EPA Region 10 office in Portland, Oregon until July 23, 2016.  
Thank you!